DETECTOR LIGHT INTENSITY 2X2 IN

MANUFACTURER: ADVANCED MEASUREMENT TECH
Manufacturer Model# 905-3
Manufacturer's PHONE: (865) 482-4411 FAX: (865) 483-0396
Manufacturer's Website: <http://www.ortec-online.com>

AAC 'L' ITEM NSN 6350-01-462-5527

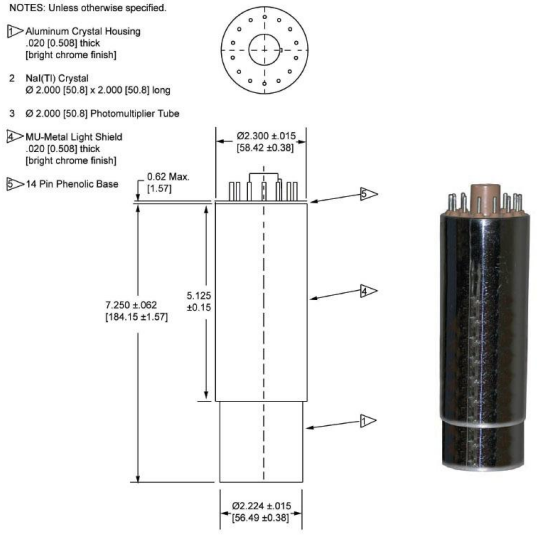
USAMMA POC: Customer Relationship Management 301-619-1288/4301 - DSN 343-1288/4301
UNIT PRICE: $1,048.35

System Description: Nal(Tl) Scintillation Detectors (Model 905 Series)
A gamma ray interacting with a scintillator produces a pulse of light that is converted to an electric pulse by a photomultiplier tube (PMT). The PMT consists of a photocathode, a focusing electrode, and 10 or more dynodes that multiply the number of electrons striking at each dynode. A chain of resistors typically located in a plug-in tube base assembly biases the anode and dynodes. Complete assemblies including the scintillator and PMT are available.

The properties of a scintillation material required to produce a good detector are transparency, availability in large size, and large light output proportional to gamma-ray energy. Few materials have good properties for detectors. Thallium-activated sodium iodide [NaI(Tl)] and cesium iodide [CsI(Tl)] crystals are commonly used, as well as a wide variety of plastics. CsI(Tl) and plastics have much faster light decay times than NaI(Tl) and are primarily used for timing applications.

The high Z of iodine in NaI(Tl) crystals result in high efficiency for gamma-ray detection. Resolution for a 3-inch diameter by 3-inch length crystal is typically about 7% for 137Cs and slightly worse for larger sizes. The light decay time constant for a NaI(Tl) crystal is about 0.23 µs. Typical charge-sensitive preamplifiers translate this into an output voltage pulse with a rise-time of about 0.5 µs. Fast coincidence measurements cannot achieve the very short resolving times that are possible for plastic scintillators, especially at low gamma-ray energies.

905-3 NaI Scintillation Detector, 2- x 2-in. crystal, 2-in. tube



DETECTOR LIGHT INTENSITY 2X2"
PART # 905-3
NSN 6350014625527

DETECTOR LIGHT INTENSITY 2X2 IN
PHYSICAL & ENVIRONMENTAL SPECIFICATIONS

Item Dimensions	**Height (Inches)**	**7.75**
	Width (Inches)	**2.3**
	Length (Inches)	**2.3**
	Cube (Cubic Feet)	**0.0237**
	Weight	
Ship Dimensions	**Height (Inches)**	**0**
	Width (Inches)	**0**
	Length (Inches)	**0**
	Cube (Cubic Feet)	**0**
	Weight	
Storage Temp		
Operating Temp		
Storage Humidity		
Operating Humidity		
Amps		
Watts		
Power Requirements	**N/A**	
Notes	**Typical efficiencies given as a percentage for a 1-µCi 137Cs source centered at a distance of 10 cm:** **905-3 (2" x 2"): 0.75 @0.5 MeV and 0.45 @2.0 MeV**	

DETECTOR LIGHT INTENSITY 2X2 IN
ACCESSORIES & CONSUMABLES - STARTUP

NSN	Notes	Nomenclature	MFR PN Advanced Measurement Tech	DIST PN	QTY	UI	Unit Price	Total Price	Shelf Life Mon.
6350014625527		Detector Light Intensity 2X2 in	905.3		1	EA	$1,048.35	$1,048.35	N/A